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A radio talk by W. W. Vincent, chief, Western District, Food and Drug Administration, delivered November 6 through KPO, San Francisco, and associated National Broadcasting Company stations.

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Good morning, my friends! The interest that you men and women are showing in these talks of mine is most gratifying. Although I have been engaged in this work of enforcing the Federal food and drugs act for over 15 years, I never until recently fully realized what interest pure foods and drugs holds for the consumer. The earnestness of purpose which you are displaying in your purchases, as indicated by your insistence in the requests for certain products that you are making of your retail grocer, convinces me that it is going to be necessary and, soon, for manufacturers of certain commodities or lines of commodities to give you more information upon the label. Manufacturers who do this first will enjoy a larger and more lucrative business.

I want you folks who are trying to buy those very good eggs I have told you about, to keep right on insisting that your retail dealer get for you the cartons which bear the yellow "Certificate of Quality" issued by the Bureau of Agricultural Economics, U.S. Department of Agriculture. Remember, the certificate bears the date on which the eggs were graded and designates their quality. The highest quality is the "U.S. Special"; the second is the "U.S. Extra", and there are large and medium sizes put up in those packages which bear the Department's yellow certificate. Some dealers have statements on their cartons to the effect that eggs are of "U.S. Special Grade", or "U.S. Extra Grade", but if the yellow colored certificate issued by the Department of Agriculture is not on the carton you cannot be assured that the contents are as labeled. Keep asking and your dealer will eventually get those eggs.

Those of you who purchase cream and want to know the butter fat content -- which is the valuable constituent of that cream -- might keep demanding that the percentage of butter fat be declared upon the cap label. It shouldn't cost you a fraction of a cent more to have that information, because the creamery operator knows exactly what percentage of butter fat he gives you in every bottle of cream delivered. As a cream consumer you are entitled to know.

Last week, I talked about cheese and I didn't finish. You recall that I told you there are only about 18 different varieties of cheeses manufactured, but more than 400 names are applied to them. I promised to tell you something of the chemistry and microbiology of cheese-manufacture and also what the different cheeses consist of. I discussed Cheddar Cheese, telling you it was made from heated and pressed curd obtained from whole milk by the action of rennet. That definition of Cheddar Cheese fits the majority of all whole milk cheeses made from cows milk. You see, therefore, that factors other than composition are responsible for such differences in texture, taste and odor as result in the ripening of the curd. I told you there are hard and soft cheeses. In the soft cheeses, the ripening changes that occur are largely due to agents, mold and bacteria, which grow only on the surface of the cheese, and the products of those agents, by means of diffusion, affect the entire product. Soft cheeses are, therefore, made in



small sizes in order that these changes may occur within a reasonable time. In the hard cheeses, the curd, consisting largely of casein, which is a proteid compound, undergoes a complete series of chemical and physical changes which alter texture, solubility, and digestibility. These changes are responsible for the flavors and aromas which make the difference between kinds of cheeses.

Now let us discuss first the more common soft cheeses. Neufchatel, probably the best known, is a soft French-type cheese, made from unheated curd which is obtained by the combined action of lactic fermentation, or souring, and rennet on whole cow's milk. The curd is drained, kneaded and pressed into the desired forms. It contains in the dry substance not less than 50% of milk fat. Neufchatel cheese is now made in America, but American Neufchatel is not ripened to any material extent. The imported Neufchatel, rarely seen in America, is ripened and approaches in texture and consistency a Camembert Cheese. The moisture content of Neufchatel Cheese as you purchase it is approximately 50-55%. It occasionally reaches 60% in winter.

Cream Cheese, described last week, is made by the Neufchatel process from whole cow's milk enriched with cream. The standards specify no less than 65% milk fat in the dry substance. Specialties of Neufchatel or Cream Cheese, sometimes encountered, contain pimento, olives, spices and nuts.

Camembert Cheese, both in this country and France, is made from the unheated, unpressed curd obtained by the action of rennet on whole milk or on lightly skimmed milk which ripens with the growth of a special mold on the outer surface. It contains no less than 45% milk fat in the dry substance. The Camembert process necessitates a slight ripening or increase of acidity in the milk before the addition of rennet, and the curd obtained is handled so that the maximum amount of whey possible is retained. The mold growth developed on the exterior of the cheese, produces enzymes and these, diffusing throughout the curd will, in about six weeks or two months, produce a soft, smooth, butter-like mass of characteristic flavor. Close control of temperature, humidity and sanitation are necessary in the manufacture of Camembert Cheese. As this cheese reaches you, its moisture content is around 50%.

Roquefort Cheese is a whole milk product, made from sheep's milk, with or without the addition of a small proportion of goat's milk. It is made from the unheated and unpressed curd obtained by the action of rennet on the milk. The curd is inoculated with a special mold and ripens with the growth of the mold. You will recognize the fully ripened cheese by its mottled or marbled appearance in sections. The curd is inoculated while in the form, and just before pressing, by sprinkling the curd with bread crumbs on which the mold has been developed. In order to introduce air or oxygen into the center of the cheese -- thus permitting mold growth, the cheeses are pierced by small needles. The outside of the cheeses are salted, scraped and brushed at intervals to retard development of mold on the exteriors. Ripening or curing takes from one to five months and, in France, is done in caves, some artificial, in which the temperature approximates 40-45°F. Roquefort Cheese, as made in the United States, is a cow's milk product and you will find such cheese labeled as "American" or "Domestic Roquefort". Roquefort Cheese is generally sold in cylindrical loaves, wrapped in tinfoil, each weighting from 4 to 5 pounds. "Fromage de Bleu" is the French cheese made in imitation of Roquefort from cow's milk. The





Gorgonzola Cheese of Italy and the Stilton Cheese of England, both cow's milk products, are similar in appearance to Roquefort and contain the same mold.

Limburger Cheese, originally made in Belgium, is now manufactured extensively in the United States. It is a whole-milk cheese, made by the Limburger process from the unpressed curd obtained by the action of rennet on the whole milk of cows. The curd is ripened in a damp atmosphere by special fermentation. It contains, in the dry substance, not less than 50% of milk fat and is usually uncolored. Its characteristic strong odor results from forced fermentation, and the development of volatile fatty acids. It is generally sold in bricks of one or two pounds, wrapped in paper and tinfoil. You might be interested to know briefly how they get the characteristic odor of Limburger Cheese, which you get as soon as you open the tinfoil. They cure Limburger in small blocks of about 2 pounds on damp shelves in damp cellars. The surface of the cheese is kept moist and the makers rub or massage the cheese every day for a period of about two weeks. By this time, some of the characteristic odor has been developed and the rest develops after the cheese has been put into its tinfoil covering.

Now for the hard cheeses. Swiss or Emmenthaler Cheese, with the big holes, originally produced in Switzerland, is now manufactured in the United States in large quantities and of excellent quality. It is generally prepared in large cart wheels weighing from 100-250 pounds. Some also reaches you in blocks. Swiss Cheese has a mild, sweetish flavor and is obtained from the heated and pressed curd made by the action of rennet on whole milk or partly skimmed milk. In the ripening process, special gas-producing bacteria are responsible for causing those characteristic "eyes" or "holes". In the dry substance, it contains no less than 45% of milk fat. In the preparation of the rennet solution, certain acid-forming bacteria are produced in large numbers. When these are introduced into the milk, they are responsible for the formation of the gas pockets or holes which you see. This cheese, when produced in France, takes the name "Gruyere". "Domestic Swiss" and "Schweizer" are the names generally given to that produced in the United States. You will probably find the imported product most frequently in small circular cartons labeled "Gruyere Processed Cheese". There are six triangular pieces weighing approximately 1-1/3 ounces each, in each carton.

Gouda Cheese is made in Holland by the Gouda process from whole milk of cows. The rennet-treated curd is heated and pressed, and is prepared in loaves of from 7 to 45 pounds. The rind is colored yellow with saffron. Often, when you see Gouda Cheese in this country, you will find each cheese covered with an animal tissue, said to be a bladder. Gouda Cheese has a close texture, is softer than Edam, and has a mild flavor. You might be interested to know that cheeses made in Holland are under strict government control. They permit the use of skimmed milk, but cheeses made from skimmed milk must be labeled to show the percentage of butter fat contained in the dry substance. You will, therefore, find Dutch cheeses marked with numbers such as 45 - 30 - 20 - and 10. These mean the percentage of butter fat contained. Forty-five means 45% butter fat and a whole-milk cheese. Thirty means 30% butter fat or a half whole-milk and half skimmed-milk cheese. Twenty means 20% butter fat or a 1/4 whole-milk and 3/4 skimmed-milk cheese. Ten means 10% butter fat or a skimmed-milk cheese. The Norwegian Government has similar regulations applying to all Norwegian cheese. In the United States, Gouda Cheese is required to contain not less than 45 per cent milk fat in the dry product and if this type of cheese contains





less butter fat, it must be marked as "partly-skimmed" and "skimmed-milk cheese", as the case may be.

You are all familiar with those round red "Edam" cheeses some-what similar in taste to our ripe American, or Cheddar Cheese. They are imported from Holland, though some are made in the United States. The markings, as given you for Gouda, will likewise be found upon the imported "Edam". The red color is harmless.

My friends, I could tell you about other cheeses: Krutt Cheese, made from camel's milk; the Latticini Cheese, from Buffalo's milk; Lapland Cheese, from reindeer's milk, and there are goat's milk cheeses of various kinds. I will have to omit the various grating cheeses, as well as the whey cheeses such as "Primost" and "Mysost". My time is about up.

Remember now, when buying cheese, if you desire the imported product, each original package imported must carry the name of the country from which it came. The labels on repacked imported cheese usually state the name of the cheese and, in addition, bear the word "Imported". Practically all American-made European varieties of cheese bear qualifying words such as "American" or "Domestic" and usually the name of the state in which the cheese is made. A cheese customarily made from whole milk will be plainly labeled, "Made from partly skimmed milk", or "Skimmed Milk", if such is a fact.

This concludes my twenty second talk. If you are interested in receiving this information on cheese or the many other food products I have told you about, drop a post card to W. W. Vincent, U.S. Food and Drug Laboratory, San Francisco, or care of this station.

Next week at this hour we go back to the canning business. I will talk about tomatoes, and perhaps other vegetables. Incidentally, I will tell you a story about bad tomatoes.

